

INTERNATIONAL SEARCH REPORT

International Application No.

GB2004/002726

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K39/39 A61P37/04 A61P33/00 A61P35/00 A61P31/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | WO 03/009812 A (GONZALEZ-ASEGUINOLAZA GLORIA ; KOEZUKA YASHUHIKO (JP); UNIV NEW YORK () 6 February 2003 (2003-02-06) cited in the application abstract page 22, lines 1-29 page 33, lines 16-20 | 1,2,5,6, 8-12 |
| Y | claims 2,4,25,29-32,39,53 ----- -/-- | 1-43 |



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

8 document member of the same patent family

Date of the actual completion of the international search

3 November 2004

Date of mailing of the international search report

07/12/2004

Name and mailing address of the ISA

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Lechner, O

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| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|--|-----------------------|
| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| Y | BUSCHARD K ET AL: "Sulphatide and its precursor, galactosylceramide, influence the production of cytokines in human mononuclear cells" DIABETOLOGIA, vol. 40, no. SUPPL. 1, 1997, page A89, XP009039007 & 16TH INTERNATIONAL DIABETES FEDERATION CONGRESS; HELSINKI, FINLAND; JULY 20-25, 1997 ISSN: 0012-186X the whole document | 1-43 |
| Y | KITAMURA HIDEMITSU ET AL: "The natural killer T (NKT) cell ligand alpha-galactosylceramide demonstrates its immunopotentiating effect by inducing interleukin (IL)-12 production by dendritic cells and IL-12 receptor expression on NKT cells" JOURNAL OF EXPERIMENTAL MEDICINE, vol. 189, no. 7, 5 April 1999 (1999-04-05), pages 1121-1127, XP002303680 ISSN: 0022-1007 the whole document | 1-43 |
| A | HAYAKAWA Y ET AL: "Differential regulation of Th1 and Th2 functions of NKT cells by CD28 and CD40 costimulatory pathways." JOURNAL OF IMMUNOLOGY (BALTIMORE, MD. : 1950) 15 MAY 2001, vol. 166, no. 10, 15 May 2001 (2001-05-15), pages 6012-6018, XP002303681 ISSN: 0022-1767 the whole document | 1-43 |
| A | BENDELAC ALBERT ET AL: "Adjuvants of immunity: Harnessing innate immunity to promote adaptive immunity" JOURNAL OF EXPERIMENTAL MEDICINE, vol. 195, no. 5, 4 March 2002 (2002-03-04), pages F19-F23, XP002303682 ISSN: 0022-1007 the whole document | 1-43 |

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| A | <p>YOSHIMURA ATSUTOSHI ET AL: "Structural requirements of muramylpeptides for induction of Toll-like receptor 2-mediated NF-kappaB activation in CHO cells" JOURNAL OF ENDOTOXIN RESEARCH, vol. 6, no. 5, 2000, pages 407-410, XP002303683 ISSN: 0968-0519 the whole document</p> | 1-43 |
| A | <p>KRUTZIK S R ET AL: "The role of Toll-like receptors in host defense against microbial infection" CURRENT OPINION IN IMMUNOLOGY, CURRENT BIOLOGY LTD, XX, vol. 13, no. 1, 1 February 2001 (2001-02-01), pages 104-108, XP004257769 ISSN: 0952-7915 the whole document</p> | 1-43 |
| A | <p>LIM SAI-KIANG: "Freund adjuvant induces TLR2 but not TLR4 expression in the liver of mice." INTERNATIONAL IMMUNOPHARMACOLOGY, vol. 3, no. 1, January 2003 (2003-01), pages 115-118, XP002303684 ISSN: 1567-5769 abstract</p> | 1-43 |
| A | <p>YANAGISAWA KAZUHIKO ET AL: "Impaired proliferative response of Valpha24 NKT cells from cancer patients against alpha-galactosylceramide" JOURNAL OF IMMUNOLOGY, vol. 168, no. 12, 15 June 2002 (2002-06-15), pages 6494-6499, XP002303685 ISSN: 0022-1767 the whole document</p> | 1-43 |
| A | <p>MIYAMOTO KATSUICHI ET AL: "A synthetic glycolipid prevents autoimmune encephalomyelitis by inducing TH2 bias of natural killer T cells" NATURE (LONDON), vol. 413, no. 6855, 4 October 2001 (2001-10-04), pages 531-534, XP002303730 ISSN: 0028-0836 cited in the application the whole document</p> | 1-43 |

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claim 37 would appear to be directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

/GB2004/002726

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| WO 03009812 A | 06-02-2003 | CA 2453880 A1 | 06-02-2003 |
| | | EP 1434859 A2 | 07-07-2004 |
| | | WO 03009812 A2 | 06-02-2003 |
| | | US 2003157135 A1 | 21-08-2003 |
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